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# STMicroelectronics cooperates with Semikron to integrate silicon-carbide power technology in next-generation electric-vehicle drives

*Long-term engineering and component-supply cooperation with ST contributes to success as new Semikron eMPack® power-module family wins billion-Euro first order*

**Geneva, Switzerland; Nuremberg, Germany – May 10, 2022** – STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, has revealed it is supplying silicon carbide (SiC) technology for the eMPack® electric-vehicle (EV) power modules from Semikron, one of the world's leading manufacturers of power modules and systems.

This is the result of a four-year technical collaboration between the two companies to design-in ST's advanced SiC power semiconductors for superior efficiency and industry-benchmark performance in more compact systems. SiC is quickly becoming the automotive industry's preferred power technology for EV traction drives, contributing to greater driving range and reliability. Semikron recently announced it had secured a billion-Euro contract to supply their innovative eMPack power modules to a major German car maker, beginning in 2025.

"*ST's industry-leading SiC device-manufacturing capabilities and in-depth expertise with the technology enabled us to integrate these cutting-edge semiconductors with our advanced manufacturing processes, which enhance reliability, power density, and scalability to meet the needs of the automotive industry*," said Karl-Heinz Gaubatz, Semikron Chief Executive Officer (CEO) and Chief Technical Officer (CTO). "*As we now move towards volume-production, our collaboration with ST brings the assurance of a robust supply chain that gives control over quality and delivery performance*."

"*Leveraging our SiC technology, Semikron's advanced scalable eMPack family of power modules is ready to make a major contribution towards zero-emission motoring*," said Edoardo Merli, Power Transistor Sub-Group General Manager and Executive Vice President of STMicroelectronics. "*In addition to its transformative effect in e-mobility, our SiC technology, now in its third generation, is driving increased efficiency, performance, and reliability in sustainable energy and industrial power-control applications*."

ST's advanced third-generation SiC technology delivers industry-leading process stability and performance. Engineers from ST and Semikron cooperated to integrate the advanced STPOWER SiC MOSFETs, which control power switching in the main EV traction inverter, with Semikron's innovative fully sintered Direct Pressed Die (DPD) assembly process. DPD enhances module performance and reliability and enables cost-effective power and voltage scaling. Leveraging the parameters of ST's SiC MOSFETs, supplied as bare dice, Semikron has established 750V and 1200V eMPack platforms, addressing applications from 100kW to 750kW and battery systems from 400V to 800V.

ST has a broad portfolio of STPOWER SiC MOSFETs in production now. They are available in standard power packages or as bare dice that are optimal for advanced modules where high power density handling is a key requirement. Please contact your local ST sales representative for samples and pricing requests.

**About STMicroelectronics**
At ST, we are 48,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An independent device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and 5G technology. ST is committed to becoming carbon neutral by 2027. Further information can be found at www.st.com.

**About SEMIKRON**
SEMIKRON is one of the world's leading manufacturers of power modules and systems primarily in the medium output range (approx. 2 kW up to 10 MW). Our products are at the heart of modern energy efficient motor drives and industrial automation systems. Further application areas include power supplies, renewable energies (wind and solar power) and electric vehicles (private cars, vans, buses, lorries, forklift trucks, and more). SEMIKRON's innovative power electronic products enable our customers to develop smaller, more energy efficient power electronic systems. These systems in turn reduce the global energy demand. Further information can be found at www.semikron.com

SEMIKRON is a family owned business founded in 1951, headquartered in Nuremberg, Germany. Today the company has a staff of more than 3,000 people in 24 subsidiaries worldwide. This international network with production sites in Germany, Brazil, China, France, India, Italy, Slovakia and the US ensures fast and comprehensive service for customers. By establishing the ONLINE SHOP, SEMIKRON increased its presence for customers.

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